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Evolutionary Psychology and Morality. Review Essay

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1 Introduction

Evolution has since the publication of *The origin of species* (1859) been a source of inspiration, and a bone of contention, not only for biology but also for philosophy and the sciences of man. The moral consequences of Darwinism have been a concern for ethicists since Herbert Spencer elevated the survival of the fittest to a norm underwriting cultural and societal progress—hard for the individual perhaps, but good for mankind. In contrast, Thomas Huxley saw evolution as a story of cruelty and ruthless selfishness (“nature, red in tooth and claw”), that a human moral society should combat rather than imitate.

In the past 150 years several varieties of evolutionary ethics have been proposed. This review considers three books broadly concerned with *meta-ethics*. Meta-ethics is about the meaning of moral statements and the nature of moral judgments, about the specific characteristics of moral behaviour and moral attitudes, and about the nature of moral properties. If we want to understand how moral judgement works, we have to understand the mental architecture that produces such judgments, one might argue. That is why we should also look at psychology, in particular moral psychology (see e.g. Sinnott-Armstrong 2008), as a resource for meta-ethics.

In psychology, evolutionary thinking has in recent years acquired a place, explaining emotions, cognition, etc. as biological adaptations (e.g., Buss 2007). So, we can see the big issue looming: can morality be explained as a biological adaptation, as an instinct, and most importantly, what does that mean for the status of moral judgments and moral facts? If what we do is not the result of a judgment about what is universally and objectively right or wrong, but of the blind instincts of our animal nature, designed to promote survival of

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selfish genes, doesn't that undermine the belief in morality? Doesn't that expose our moral intuitions as illusions? Could it be that we are not motivated to do the right thing by moral judgments, but by blind instincts?

Central issues in the philosophical debate are (1) the objectivity of moral rules (moral realism), (2) the relative contributions of nature vs. culture to our moral sense, (3) natural morality (or proto-morality) and (4) moral nativism. When moral theorists turn to evolutionary biology and psychology for support or criticism of these views on morality, they rely, explicitly or implicitly, on concepts and ideas that are sometimes outdated, and are easily simplified or distorted. A thumbnail sketch, in the next section, of a few recent developments in evolutionary psychology may be useful to appreciate some of the pitfalls. In particular, it is sometimes assumed that moral behaviour is basically altruism (not coincidentally perhaps, explaining altruistic behaviour in animals is a showcase of evolutionary biology). And adaptive explanations are not as simple, nor as complete, as some moral philosophers seem to think.

2 Evolutionary Moral Psychology: Explaining Altruism, and Beyond

2.1 Evolutionary Explanations of Altruism

Evolutionary psychology (e.g., Buss 2007) assumes that the mind consists of a large number of modules, each of which is a solution to an adaptive problem in the ancestral environment. In principle, all human mental processes, capacities, feelings and emotions can be explained as adaptations. For moral sentiments like altruism, roughly three explanations have been proposed: reciprocal altruism, kin selection, and group selection. Moral sentiments are basically instincts that are built by selfish genes, and are part of our animal nature—altruism is widely present in the human kingdom. (For classic accounts of the evolutionary roots of virtues, see Ridley (1996) and Wright (1994)). The evolutionary approach has been eagerly adopted by defendants of naturalistic (meta)ethics—either for vindicating or for debunking morality (Joyce 2006). However, it can be argued, first that the naturalistic approach often fails to acknowledge the partial, heuristic and pluralistic character of biological explanation, and that it sometimes overextends evolutionary principles to cultural phenomena, and second that this view of virtues (altruism) as instincts is too narrow a view of morality.

2.2 Broadening Morality: Moral Psychology Beyond Altruism

In a recent review article, Jonathan Haidt (2007) gives a useful and somewhat provocative summary of the consensus in moral psychology, and suggests a broader definition of morality than assumed in classical evolutionary psychology as sketched above. Morality is mostly a matter of intuitions, sentiments and emotions, not rational judgment. And it is presumably the product of a co-evolution of individual mental mechanisms and social and cultural institutions: the social and the biological come together in emotions that are the basis of morality. This leads to some important guidelines for understanding the evolutionary bases of morals. Moral reasoning is secondary: the reasons we give are mostly post-hoc justifications of moral intuitions. Moral intuitions are selected for being useful, not for detecting truth; morality is for managing gossip, for keeping up one's reputation in one's peer group, and that may require confabulation and deception rather than getting at the truth. Kin selection can probably explain the moral intuition that we should

avoid doing harm to others. Reciprocity and fairness can be explained from the necessity to maintain one's reputation as a reliable player: morality helps to create groups, where reputation is something like indirect reciprocity. So far, these are individual (gene-centered) selection processes. Group selection could be an additional level above the gene-level, where the fitness of whole groups is subject to selection pressures. This implies that cultural practices can modify genes, i.e. cultural practices can create new capacities and instincts. Religion may be such a selecting force which creates specific sensitivities and which may be adaptive at group level because religion directs the individual beyond himself. Another example of cultural or group-level selection could be the phenomenon of mirror neurons that detect intentions in our fellows (we immediately see disgust, we feel another's pain): living in groups is facilitated by such a mechanism. Thus, there must be more to morality than just harm avoidance and fairness/reciprocity. This is important since it expands morality beyond the individual gene-centered paradigm. Group selection may have created its own moral intuitions, alongside individual gene selection. The former adds a tribal overlay superimposing a collection of moral intuitions to our moral make-up: loyalty and patriotism, authority and obedience, respect for tradition, and somehow an intuition for sacredness and spiritual purity. These cannot be understood as a product of selection for reciprocity and kin selection alone.

2.3 Broadening Evolutionary Explanation: Beyond the Selfish Gene

Evolutionary explanations are more problematic than psychologists and moral philosophers seem to realise. Richardson (2007) points out that evolutionary psychology does not live up to the standards of explanation in evolutionary biology. It often produces "just so stories", speculations about how a trait might possibly have been selected, whereas genuine evolutionary theory specifies "how actually" selective history has worked in a specific case. A devastating list of overlooked problems and ignored complexities of real biology leads Laland and Brown (2002, p. 187) to the conclusion that evolutionary psychology has missed the recent developments in biology, and gives an impoverished and simplified picture of evolution.

More important for our present purpose, there are more levels and evolutionary approaches than just evolutionary psychology: evolution is a multi-level phenomenon (Laland and Brown p. 182). Recall that evolutionary moral psychology focuses on the individual mental architecture and on sentiments and emotions. If the critics are right, and evolution proceeds at several levels, that leaves out other levels of evolution—in particular cultural evolution, and the interaction between genetic and cultural selection.

Thus, both what is meant by morality, and the mechanisms of evolution are more diverse and fragmented than previously realised. Evolution is a multi-level phenomenon and there is more to morality than reciprocal altruism, and there is more to consider than the individual mental architecture that is the focus of classic evolutionary psychology.

This brief summary above intends to provide a background to appreciate three recent books on evolution and moral philosophy, in particular the extent to which these moral philosophers get evolution right.

3 Three Books on Evolution, Emotion and Morality

Neil Levy's book *What makes us moral? Crossing the boundaries of biology* (2004) provides a competent but not original review of the classical position in evolutionary

psychology. Moral psychology from evolutionary perspective is discussed mainly as the explanation of altruism, and we mentioned above, there is more to morality than altruism. Levy seems to stick to the somewhat outdated orthodoxy in evolutionary psychology, roughly Tooby and Cosmides' (1992) project. There is also a passable discussion of the (mis)interpretation of genetic determinism. Against this background, he introduces two major issues, moral realism and moral objectivism, and the contribution of biology and culture to understanding our moral sense. The main point, expressed in the title, is that we are not determined by our biological nature, but that we reshape ourselves through culture. He suggests that animals, like the famous altruistic vampire bats that help their fellows with food, have a kind of proto-altruism. Full-blown human altruism has the same basis, but is transformed by culture. Unfortunately, this interesting idea remains vague. Levy's most interesting contribution is a not much elaborated suggestion that we can transcend our biological heritage, that biological altruism as result of evolved genetic selfishness can, in a cultural setting, be turned against itself and become real altruism: "From the mindless and mindlessly selfish rose beings capable of rationality and morality" (p. 88). How and why this happened is not explained in great detail.

Moral objectivism is a traditional philosophical issue that could look different when seen from an evolutionary perspective. If altruism is a product of selfish genes, it is selfishness in disguise, and belief in objective and binding moral rules is self-deception. To borrow an example from Richard Joyce, when our moral intuitions can be explained as pre-wired in our brain, the existence of moral facts (objective facts, outside of us) is irrelevant to moral behaviour; just like when a paranoiac believes that he is persecuted, it is irrelevant for his behaviour whether indeed someone is after him. Morality is likewise subjective and has no basis in reality, although it can be a powerful determinant of moral behaviour. However, this is a rather crude comparison: moral properties can be both subject-dependent and to some extent real. Jesse Prinz (see below) illustrates this when he compares moral properties with secondary qualities like colours.

Levy's book leaves us with two important issues: Are moral sentiments like altruism just sentiments, feelings, or instincts, and does that undermine moral objectivity? And could we understand morality not just as a biological adaptation but as a bio-cultural phenomenon?

Richard Joyce's *The evolution of morality* (2006) uses the literature on evolution and morality to make his favourite philosophical point, that morality is indeed a "myth".

As a moral philosopher Joyce is a moral skepticist or nihilist—the final chapter of his book is devoted to the "evolutionary debunking of morality".

In an important correction to the uncritical extrapolation of evolution to ethics, Joyce points (p. 49) out that altruism in the animal kingdom, presumably based on kin selection or reciprocity, does not qualify as genuine morality. In fact, extending help beyond one's direct friends and relatives is characteristic of morals. Furthermore, morality requires *moral judgment*, not just pro-social emotions. And it involves a categorical imperative: moral judgment is not an advice about the most expedient way to reach a goal, moral rules are not relative to some end (happiness, utility, or whatever) of individual or society. Explaining the emotional mechanisms behind pro-social behaviour (the urge to submit to authority, to avoid harm to others, to maintain standards of purity, to help, to reciprocate, to be fair) falls short of explaining moral judgment.

In sum, moral judgment entails deliberation, is inescapable (categorical, absolute), and is independent of personal interest; all this cannot be accounted for by specifying emotional and behavioural programs as biological adaptations. That "being nice helped our ancestors to make more babies" (Joyce, p. 222) is not much of an explanation of ethics.

Joyce proposes a theory about the evolutionary origins of morality: it has an innate basis, an evolutionary origin, in the sense that it evolved as an adaptation (presumably, reciprocity rather than kin selection was the driving force behind this selection). The idea is that the adaptive function of moral sense is to add motivation for adaptive social behaviours. This is an admittedly just-so story on the development of morality. Evolution, he hypothesises, manipulated emotional centres in the brain to enable moral judgment. Thus, we seem to see or feel things as evil; we experience good and evil as objective properties of the situation, not as something subjective in us. Mother Nature fools us into believing that moral is objective—that is the most effective way to motivate the agent—whereas in reality it is just something of our own making. This evolutionary hypothesis supports the philosophical position of *moral projectivism*, already proposed by David Hume. Vice and virtue are not properties in objects, but perceptions in the mind. Moral judgment is projecting one's emotions onto one's experience of the world. (Below, we will see that Prinz has a more realistic view here that is at least as plausible: *perspectivism* rather than projectivism).

Thus, along this biological path, Joyce has arrived at his favourite position of moral scepticism; trust in our moral judgment is undermined. We have no reason to believe that our moral judgments are true or justified. The real drive behind moral behaviour is emotion; not moral facts and reasons but the moral emotions are in force and guide behaviour. Darwinian thinking tells us *why* Hume's notion of moral sentiments is on the right track, why we have such sentiments, and why they *seem* to have a particular unconditional authority. The venerable Kantian tradition is undermined: a morality that is based on (though not identical with) sentiments and biological adaptations cannot be unconditionally and universally binding for all rational beings—though they may *feel* thus.

Jesse Prinz' *The emotional construction of morals* (2007) brings less (second-hand) evolution, and more of an original theory of morality than both Levy and Joyce. In the first chapters Prinz gets himself and his readers deeply into analytical philosophy and metaphysics. It is the kind of book where one finds sentences like: "As perspectivists, sensibility theorists are committed to metaphysical emotionism" (p. 15).

Prinz' position is essentially neo-Humean: morality is a matter of sensations, moral feeling, and emotions. Emotions are an essential part of moral judgments. This is illustrated by the phenomenon of dumfounding: for some strong moral intuitions (cannibalism, incest) subjects may not be able to give rational arguments, but that does not diminish the moral strength of their opinions; obviously, emotions, not moral rules drive moral opinion. One does not acquire moral concepts and moral knowledge from just being told or reading about normative rules: there are no moral attitudes without emotional responses. Moral properties are characterised by our emotional responses, and have no common unifying characteristics apart from these responses. That is, morals are made by our mental apparatus, and do not exist outside us.

In the first part Prinz presents the sensibility theory of emotions in general: these are closely analogous to perceptions. The second is about the construction of *moral* emotions, through mental, social and historical activity. It provides a "genealogy of morals", tracing the origin of our norms in biological and historical perspective, and a chapter on the limits of evolutionary explanations. Prinz labels his theory *constructive sentimentalism*. It is based on a theory that emotions are felt responses to bodily processes that serve to detect and represent concerns. Concerns are the important aspects of organism and environment (loss, danger, offense etc.), detected by the mind like a smoke detector detects fire. Put differently, emotions are *appraisals* representing concerns in the form of feelings; judgment, reasoning and cognitive elaborations play a secondary role. Prinz suggests that moral concepts

incorporate the emotions that caused them. For that reason, moral concepts and representation are intrinsically motivating.

Moral emotions then are according to Prinz derived from basic emotions, e.g. indignation is the moral extension of anger. How many moral emotions can we distinguish? A more or less accepted proposal is that we have norms for three domains, labeled autonomy (transgressions against persons), purity (transgressions against a deity or nature) and community (transgressions against rank or hierarchy). Violations of norms cause anger, disgust and contempt—the primary basic emotional responses to transgression against individuals, nature, and community, respectively. This is known as the CAD (contempt, anger, disgust) model.

Prinz' theory seems to imply moral *relativism and subjectivism*. Since moral properties are characterized by their power to cause emotions in us, they must be relative and subjective, as human constructions, made by us collectively. Our responses are the moral truth-makers. However, *perspectivism* is a better label for this view than relativism or projectivism. Moral properties are real in the same way as money or the monarchy are real: they depend on collective minds, they are social constructions, but not necessarily arbitrary or illusory. Like secondary qualities (color, or temperature) they depend on the perspective of a collective subject, but that does not mean that they are projections from the subject onto reality.

In a separate chapter *Dining with cannibals* Prinz shows that moral properties are culturally variable (cannibalism is accepted in some societies, unspeakable in others). In a chapter with the title *Genealogy of morals* (with a reference to Nietzsche) Prinz sketches a program to explain the origin of morals from biological and cultural factors. Thus, it is to be expected that different cultures create different moralities.

For our purposes, Chapter 7, *The limits of evolutionary ethics* is the most interesting part of the book. One project in evolutionary ethics is to trace “*natural*” norms that are *innate*, part of our animal nature and perhaps also present in primates. Such natural norms could be considered as proto-morality, as more basic, and somehow privileged. Prinz rejects this: morality is not natural at base but artificial all the way down. Biological dispositions as such are not moral rules: these require language, judgment, and beliefs, i.e. cognitive and cultural capacities, to qualify as moral. In addition, he points out that the traditional focus on helping (altruism, fairness, and cheating) is rather limited. Two other domains of morality with a biological background are matters of rank and authority, and those related to sex (incest, fidelity). The latter two have been neglected by evolutionary psychologists. Moreover, in these domains (altruism, authority and sex) there is a large variety across cultures in forms of altruism, authority, and what counts as unnatural behavior. (As we have seen, classical evolutionary psychology considers human mental architecture universal). That means that there is no “*natural*” morality that could vindicate an ethical system as the most natural and thus somehow privileged. Biological good is not necessarily moral good: only in the latter case do we care, i.e. do we have the corresponding emotion; whether something is good for our genes is not a moral concern. That morals are not innate does not mean that “morality is no more than a collective illusion fobbed off on us by our genes” as Michael Ruse put it (quoted in Prinz (2007, p. 256)).

The search for a morality in primates does not help either: in Prinz' view, behavior that can be characterized as helping or pro-social is not necessarily the result of moral judgment, and therefore not genuinely moral. Altruistic behavior in primates is not necessarily determined by moral considerations. Most probably, morality is a by-product of a set of biological adaptations, thus as such it is not innate. Emotions (self-directed and other-directed), the capacity for rules, imitation, and mind-reading are among the ingredients.

Besides, meta-emotions (“you should be ashamed”), punishment for transgressors, and punishment for those who do not enforce norms, all help to inculcate the appropriate attitudes. All these capacities and cultural factors may instill the sentiments and attitudes that form the basis of morality. Such moral attitudes are new to evolution; we *learn* to consider helping, respect for authority, and decency as good. Unlike primates, these attitudes extend our natural sympathies beyond the direct relatives to society at large.

To sum up, Prinz presents a subjectivist, emotivist/sentimentalist, bio-cultural and naturalist theory of moral emotions. Sentiments are the basis of morality, and moral emotions are derived from non-moral emotions. Morality is upgraded and extended from its biological origins through enculturation. Whereas primates have the behavioral tendencies but not the moral sense human “moralization” reshapes human nature. This amounts to a *bio-cultural* view of morality. Biological tendencies are reshaped and extended through enculturation. E.g., respect for rank is biologically based, but it works out quite different in different cultures; it is not something that is specified by our genes.

Whereas evolutionary psychologist present “evoked culture” as an epigenetic switch on a genetic program, the bio-cultural view locates the determinants of morality in cognitive and cultural factors. Biological evolution has fitted us with a set of emotional and behavioral programs that have contributed to the emergence of morality, but are not fully moral in themselves.

4 Conclusion

What might these three books mean for moral theory? First, let us note that all three start from a naturalistic point of view. Moral objectivism and moral rationalism are traditional views in meta-ethics that have come under naturalistic criticism. At least since Kant, morality has been seen as objective, universal and rational. Moral realists assume that there are such things like moral facts, and that we are somehow capable of detecting them: when making a moral judgment, we express a state of affairs. Moral objectivism, the claim that moral judgments express moral truths, is undermined by the evolutionary claim that our moral judgments are produced by mental mechanisms that are the contingent outcome of evolutionary selection.

Another meta-ethical position that seems to be undermined by evolutionary moral psychology is moral rationalism, the notion that moral judgments are the result of conscious rational reasoning. In contrast, Jonathan Haidt (2001) argued that “the emotional tail wags the rational dog”: moral judgment and rational moral discourse is a post-hoc rationalisation of subconscious, intuitive, holistic and emotional processes. So, the basis of moral judgment is not reason and rational discourse; rather in fact the path goes backward from judgment to reasoning: moral justification is post-hoc rationalisation, made to fit a precious unconscious decision. Thus, moral rationalism is undercut by the discovery that most of our moral reasons are post hoc justifications of unconscious intuitions, inaccessible to conscious reasoning.

Furthermore, the diversity in norms between cultures and their genealogy indicates, as Prinz shows, that morality is not universal either, and is a contingent product of cultural developments. Thus, an attempt to ground morality in evolution, more precisely in innate (primate) proto-morality, is not going to work.

Universal, binding and objective moral rules thus sit uncomfortably with the naturalist view. Of course, as Joyce (2006) argues, this still leaves an instrumental role for moral sentiments. They remain in force because of the permanence of moral

emotions, and they underpin the moral behaviour that keeps society afloat. But the feeling that our moral intuitions are much more obligatory than mere useful conventions is diagnosed as subjective sentiment, a trick Mother Nature invented to keep agents within limits.

Secondly, an interesting new development is the extension of morality beyond altruism, and of naturalistic explanations of morality beyond individual gene-entered adaptations for reciprocity and kin selection. The view of morality has traditionally been restricted to altruism, and Levy's and to some extent Joyce's book suffer from a narrow focus on reciprocity and kin selection. As Haidt (2007) and Prinz point out, morality also includes norms for loyalty, purity, authority, respect etc. Prinz incorporates other moral emotions than altruism in his theory, and shows how they differ across cultures. Biology alone is too abstract and not specific enough to explain this range of diversity.

Levy and perhaps Joyce seem to unquestioningly accept evolutionary explanations and try to adjust a meta-ethical program to it. Traditionally, these explanations focus on *innate individual* moral sentiments, subserving kin selection and reciprocity. The exclusive focus on the sentiments and the fixed architecture of the individual mind, ignoring cultural layers of human nature, looks naïve and simplistic in the light of recent developments. Evolutionary psychology focusing on a fixed individual mental architecture is not the only naturalistic approach to human nature. Although Joyce and Levy mention culture, they have little to say on the mechanisms of cultural influence. Prinz rightly includes enculturation and the interaction between genes and culture as a factor in the genealogy of morals. Such an enlargement of the evolutionary paradigm is more in accordance with modern gene-culture co-evolution approaches in biology than the impoverished and simplistic evolutionary explanations that inspired the other two authors.

The bio-cultural model Prinz defends implies a cultural level of evolution interacting with innate biological capacities. Culture is more than a trigger for genetic program. That genes and cultural evolution can interact is not controversial—a standard example is dairy farming as a cultural element that co-evolved with lactose tolerance as a genetically fixed trait. The case of morality will be more complicated, but Prinz' "genealogy" gives a few interesting impulses.

Although Joyce and Levy pay some lip-service to the idea of a cultural superstructure on our biological heritage, the notion of levels of selection and evolution as a multi level phenomenon is largely absent in these authors. The co-development of genes and culture could be part of a multi-level explanation of morality, that bypasses the narrowly individualistic framework of evolutionary psychology. Several levels of explanation may coexist in evolution, and human nature may be seen as a layered structure of genetic and cultural levels.

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